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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/639,677

Filing Date: August 13, 2003

Appellant(s): CUERVO ET AL.

Terry W. Kramer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/02/10 and supplemental appeal brief filed 03/25/10 appealing from the Office action mailed 11/25/09.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:
claims 1, 2, 6, 8, 9, 11-13, and 17-20.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 6,714,515 B1 Marchand 05/16/2000

US 7,246,165 B2 Williams et al. 06/05/2003

Chan, K "RFC 3084 - COPS Usage for Policy Provisioning (COPS-PR)", Network Working Group, March 2001, pp. 1-27

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Marchand (US Patent 6,714,515 B1).

As to claim 1, the preamble has been given patentable weight since the claim body refers back to the preamble. See “the communications network” at line 4.

As to claim 1, Marchand teaches an apparatus that establishes services that utilize policy-enabled resources in a communications network (Fig. 3), comprising:

a first policy enforcement point (PEP) residing on a network element of the communications network [edge router (11)] (Fig. 1, bottom of Fig. 3) that performs identification of policy-enabled resources that are available and allocates requested policy-enabled resources to services (col. 5 lines 13-17);

a first network resource controller (NRC) within a domain on the communications network [bandwidth controller inherently present within a Bandwidth Broker (BB)] (Fig.

3; col. 4 lines 57-58) that makes requests, from available policy-enabled resources, of any policy-enabled resources within a first domain required to establish a particular service (col. 4 lines 17-21), the requests from the available policy-enabled resources being separate from the identification of the policy-enabled resources [the functionality of BB's controller is inherently separate from the functionality of PEP, which are two different entities]; and

a first resource policy layer (RPL) that establishes the particular service [intra-domain interface toward an edge router (37)] (Fig. 3; col. 4 lines 15-17) and provisions the policy-enabled resources allocated to the particular service, said first resource policy layer including a first policy decision point (PDP) [intra-domain interface (37) functions as a PDP for that domain since intra-domain interface is a part of BB (31)] (col. 5 lines 18-40), wherein:

said first NRC acts as a trusted entity that initiates a dynamic, trusted, policy association between said first PEP and said first PDP [controller of the BB (31) establishes direct communication between intra-domain interface (37) and the edge router (11) in that domain by way of COPS protocol interface (16)] (Fig. 3; col. 4 lines 7-21, col. 5 line 65 to col. 6 line 6),

said first PDP provides said first PEP with policies upon establishment of said dynamic, trusted, policy association between said first PEP and first PDP (col. 5 lines 18-25), and

when said first NRC requires resources from a second domain outside the first domain, said first NRC signals a request to a second NRC in said second domain

[controller of the BB (31) establishes communication through inter-domain interface (36) with controllers of BBs in adjacent domains] (col. 7 lines 13-18), which acts as the trusted entity that initiates a dynamic, trusted, policy association between a second PEP in said second domain [edge router in adjacent domain] and said first PDP [BB in the first domain establishes communication with the edge router in adjacent domain through the BB in said adjacent domain] (col. 7 lines 13-18), said first PDP providing said second PEP with the policies upon establishment of said dynamic, trusted, policy association between said second PEP and said first PDP (col. 7 lines 13-20).

As to claim 6, Marchand teaches a second RPL associated with the second domain [intra-domain interface of an adjacent BB] (Fig. 3) comprising the second PEP [adjacent domain comprises edge routers belonging to that domain].

As to claim 9, Marchand teaches:
identifying, at a first policy enforcement point (PEP) [edge router (11)] (Fig. 1, bottom of Fig. 3), policy-enabled resources within a first domain that are available and allocating requested policy-enabled resources to services (col. 5 lines 13-17);
requesting, from available policy-enabled resources at a first network resource controller (NRC) [bandwidth controller inherently present within a Bandwidth Broker (BB)] (Fig. 3; col. 4 lines 57-58) any policy-enabled resources required to establish a particular service (col. 4 lines 17-21), the requesting step being separate from the

identifying step [the functionality of BB's controller is inherently separate from the functionality of PEP, which are two different entities];

establishing the particular service with a first resource policy layer (RPL) [intra-domain interface toward an edge router (37)] (Fig. 3; col. 4 lines 15-17); and

provisioning, to the established service, the policy-enabled resources allocated to the established service, said first resource policy layer including a first policy decision point (PDP) [intra-domain interface (37) functions as a PDP for that domain since intra-domain interface is a part of BB (31)] (col. 5 lines 18-40), wherein:

said first NRC acts as a trusted entity that initiates a dynamic, trusted, policy association between said first PEP and said first PDP [controller of the BB (31) establishes direct communication between intra-domain interface (37) and the edge router (11) in that domain by way of COPS protocol interface (16)] (Fig. 3; col. 4 lines 7-21, col. 5 line 65 to col. 6 line 6),

said first PDP provides said first PEP with policies upon establishment of said dynamic, trusted, policy association between said first PEP and said first PDP (col. 5 lines 18-25), and

when said first NRC requires resources from a second domain outside the first domain, said first NRC signals a request to a second NRC in said second domain [controller of the BB (31) establishes communication through inter-domain interface (36) with controllers of BBs in adjacent domains] (col. 7 lines 13-18), which acts as the trusted entity that initiates a dynamic, trusted, policy association between a second PEP in said second domain [edge router in adjacent domain] and said first PDP [BB in the

first domain establishes communication with the edge router in adjacent domain through the BB in said adjacent domain] (col. 7 lines 13-18), said first PDP providing said second PEP with the policies upon establishment of said dynamic, trusted, policy association between said second PEP and said first PDP (col. 7 lines 13-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 11-13, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchand in view of Williams et al. (US Patent 7,246,165 B2).

As to claim 2, Marchand teaches all the elements except for said first PEP comprising a plurality of virtual PEPs, each virtual PEP being associated to a respective service.

Williams teaches that said first PEP [GGSN 16] comprising a plurality of virtual PEPs [virtual GGSNs 20] (Fig. 8), each virtual PEP being associated to a respective service [each virtual GGSN working towards a separate P-CSCF/PCF] (col. 6 line 60 to col. 7 line 32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Marchand by having said first PEP comprise a plurality of virtual PEPs, each PEP being associated to a respective service in order to

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enable decisions to be communicated from multiple PDP nodes to a single PEP without a conflict resulting at the PEP (col. 4 lines 25-29 in Williams).

As to claim 11, Marchand teaches all the elements except for virtual PEPs of the first PEP being provisioned to provide resource services.

Williams teaches that virtual PEPs [virtual GGSNs 20] (Fig. 8) of the first PEP [GGSN 16] are provisioned to provide resource services [each virtual GGSN working towards a separate P-CSCF/PCF] (col. 6 line 60 to col. 7 line 32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Marchand by having virtual PEPs of the first PEP being provisioned to provide resource services in order to enable decisions to be communicated from multiple PDP nodes to a single PEP without a conflict resulting at the PEP (col. 4 lines 25-29 in Williams).

As to claim 12, Marchand in view of Williams teaches that the virtual PEPs are provisioned to provide services in said second domain (col. 6 line 60 to col. 7 line 32 in Williams).

As to claim 13, Marchand in view of Williams teaches that said first PEP and said second PEP are provisioned with the same service by said first PDP (col. 7 lines 12-20 in Marchand).

As to claims 17 and 18, Marchand teaches all the elements except for the first PEP and the second PEP being virtual PEPs created upon request for a particular service by one of the first NRC and the second NRC.

Williams teaches that the first PEP and the second PEP are virtual PEPs [virtual GGSNs 20] (Fig. 8) that are created upon request for a particular service [v-GGSNs 20 are created when the users are actually connected and the PCF they are working towards is identified] (col. 7 lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus and method of Marchand by having the first PEP and the second PEP being virtual PEPs created upon request for a particular service by one of the first NRC and the second NRC of Marchand in order to enable decisions to be communicated from multiple PDP nodes to a single PEP without a conflict resulting at the PEP (col. 4 lines 25-29 in Williams).

As to claim 19, the preamble has been given patentable weight since the claim body refers back to the preamble. See “the communications network” as lines 3-4.

As to claim 19, Marchand teaches an apparatus that establishes services that utilize policy-enabled resources in a communications network (Fig. 3), comprising:
a first network resource controller (NRC) within a domain on the communications network [bandwidth controller inherently present within a Bandwidth Broker (BB)] (Fig. 3; col. 4 lines 57-58), said first NRC requesting, from available policy-enabled

resources, of any policy-enabled resources required to establish a particular service (col. 4 lines 17-21);

a first policy enforcement point (PEP) residing on a network element of the communications network [edge router (11)] (Fig. 1, bottom of Fig. 3), said PEP identifying policy-enabled resources that are available and allocating requested policy-enabled resources to the particular service (col. 5 lines 13-17);

a resource policy layer (RPL) that establishes the particular service [intra-domain interface toward an edge router (37)] (Fig. 3; col. 4 lines 15-17) and includes a policy decision point (PDP) [intra-domain interface (37) functions as a PDP for that domain since intra-domain interface is a part of BB (31)] (col. 5 lines 18-40), wherein the PEP is provided with information to contact the PDP of the RPL in order to provision the policy-enabled resources allocated to the particular service (col. 5 lines 18-25) based upon an aggregated view of resources in the first NRC [BB controller has an aggregated view of resources as provided by the RNS] (col. 4 lines 17-21; col. 6 lines 26-32).

Marchand does not teach that the first PEP is a virtual PEP that is created upon requesting the particular service.

Williams teaches that the first PEP is a virtual PEP [virtual GGSN 20] (Fig. 8) that is created upon requesting the particular service [v-GGSN 20 is created when the users are actually connected and the PCF they are working towards is identified] (col. 7 lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Marchand by having the first PEP being a virtual

PEP that is created upon requesting the particular service in order to enable decisions to be communicated from multiple PDP nodes to a single PEP without a conflict resulting at the PEP (col. 4 lines 25-29 in Williams).

As to claim 20, Marchand teaches:

requesting, from available policy-enabled resources at a first network resource controller (NRC) [bandwidth controller inherently present within a Bandwidth Broker (BB)] (Fig. 3; col. 4 lines 57-58), any policy-enabled resources required to establish a particular service (col. 4 lines 17-21);

identifying, at a first policy enforcement point (PEP) [edge router (11)] (Fig. 1, bottom of Fig. 3), policy-enabled resources that are available and allocating requested policy-enabled resources to the particular service (col. 5 lines 13-17);

providing the PEP with information to contact a policy decision point (PDP) [intra-domain interface (37) functions as a PDP for that domain since intra-domain interface is a part of BB (31)] (col. 5 lines 18-40) of a resource policy layer (RPL) [intra-domain interface toward an edge router (37)] (Fig. 3; col. 4 lines 15-17);

establishing the particular service with a first resource policy layer (RPL) [intra-domain interface toward an edge router (37)] (Fig. 3; col. 4 lines 15-17); and

provisioning, to the established service, the policy-enabled resources allocated to the particular service (col. 5 lines 18-25) based upon an aggregated view of resources in the first NRC [BB controller has an aggregated view of resources as provided by the RNS] (col. 4 lines 17-21; col. 6 lines 26-32).

Marchand does not teach that the first PEP is a virtual PEP that is created upon requesting the particular service.

Williams teaches that the first PEP is a virtual PEP [virtual GGSN 20] (Fig. 8) that is created upon requesting the particular service [v-GGSN 20 is created when the users are actually connected and the PCF they are working towards is identified] (col. 7 lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Marchand by having the first PEP being a virtual PEP that is created upon requesting the particular service in order to enable decisions to be communicated from multiple PDP nodes to a single PEP without a conflict resulting at the PEP (col. 4 lines 25-29 in Williams).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marchand in view of Chan et al. (RFC 3084 COPS Usage for Policy Provisioning (COPS-PR) by Network Working Group). It is noted that this document was first cited by examiner in communication dated 05/01/07. See form PTO-892.

As to claim 8, Marchand teaches all the elements except for resource capability information descriptors being used for resource discovery and policy provisioning.

Chan teaches that resource capability information descriptors [REQ and DEC messages] are used for resource discovery and policy provisioning (page 3, COPS provisioning model, sections 3.1 and 3.2 REQ and DEC, pages 7-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Marchand by having resource capability information descriptors used for resource discovery and policy provisioning in order to utilize COPS protocol for policy outsourcing and policy provisioning in communication between entities (col. 5 line 65 to col. 6 line 6 in Marchand).

(10) Response to Argument

Regarding the rejection of claims 1 and 9 under 35 USC 102(e), appellants argue:

at point 1) that Marchand does not teach “a dynamic, trusted, policy association” (bolded language of claims 1, 9). See page 11 of the Brief. It was already noted in the Final OA at page 4 that amending the claims to recite “dynamic, trusted, policy association” instead of previously claimed “association” in the context of policy exchange, does not, without more, further define the claimed subject matter and does not distinguish from the prior art of record. In particular, claims already specified that said first NRC is a “trusted” entity. The added word “dynamic” appears to be completely out of context as it provides no interconnection with any other claimed functionality and the specification fails to provide explanation or showing how this “dynamic” association is distinct from any other types of associations known in the art.

In their response, appellants submit that *“the specification defines these terms, for example, in paragraph [0027], as involving separation of the management of policies from the management of policy enabled resources”*.

Examiner notes that specification as filed, contains paragraphs [0001]-[0025], thus failing to depict cited par. [0027]. It appears that appellants are confused as to a difference between application as filed and publication of the filed application. US Pub 2005/0038887 A1 does contain paragraph numbered [0027] but this paragraph fails to define terms "dynamic" and "trusted" or even explain how these terms allegedly involve separation of the management of policies from the management of policy enabled resources. Therefore, appellant's argument cannot be held persuasive. Since no specific definition is provided, terms "dynamic" and "trusted" can only be accorded a plain meaning. As related to a field of resource allocation and policy provisioning, "dynamic association" is interpreted as "as-needed basis" and taught by Marchand in at least col. 5 lines 19-22. "Trusted association" is interpreted as "association where it is agreed beforehand that bandwidth broker BB is a "judge" and edge router is a "policeman". See Marchand at col. 5 lines 10-12.

At point 2), appellants argue that "*the Office action fails to identify a first PEP in Fig. 3, instead relying upon the PEP in Fig. 1 that is not shown in Fig. 3*". Examiner disagrees. Fig. 3 shows at the bottom of the figure that interface 16 connects BB (31) to EDGE ROUTERS, which are the same routers identified by numeral (11) in Figure 1 and are connected by interface (16) to the Bandwidth Broker (BB).

At point 3), appellants argue that "*Marchand clearly lacks a NRC*". Examiner disagrees. In Marchand, a bandwidth controller (claimed network resource controller) is inherently present within a Bandwidth Broker (BB) as taught by Marchand in at least col. 4 lines 57-58. It is noted that Marchand identifies BB (as a whole) as a PDP. Therefore,

it is reasonable to conclude that each component of BB (as in Fig. 3) also functions as a PDP to some extent.

At point 4), appellants argue that references of record fails to disclose a “second domain” and a “second NRC”. See page 12 of the Brief, highlighted subject matter. Examiner disagrees. Marchand clearly teaches a second domain, see Marchand at col. 7 lines 12-20, and a second NRC (BB in each domain has its own bandwidth controller, such as one depicted at Fig. 3).

At point 5), appellants argue that “Marchand lacks a first NRC because Marchand’s BB functions as a PDP, instead of as an NRC”. Examiner disagrees. Marchand’s BB (as a whole) functions both as a PDP and NRC (BB inherently includes controller as one of the components). There is no requirement in the claims for the NRC and PDP to be separate physical entities that are not collocated. Appellants are reminded that as known in the art, a PDP is Policy Decision Point, that is, a logical entity. Therefore, the same device/server can technically perform the functionality of both the NRC and PDP.

At point 6, appellants argue that *“such communication between PDPs would resemble Fig. 1 of the prior art in the present application, not the claimed use of inter-domain resource requests between a first NRC in domain A and a second NRC in domain B, as depicted in Fig. 2”*. Examiner disagrees. As mentioned just above, PDP is a logic entity and therefore inherently requires a controller. Separation of box labeled PDP in Fig. 1 of applicant’s specification into two boxes labeled NRC and RPL in Fig. 2 appears to be purely logical, that is, RPL and NRC are collocated at a single physical

entity, since RPL is simply a “layer” and there is no evidence in the specification or in the applicable art that a “layer” can be a separate physical entity.

At point 7, appellants argue that *“the Office action has refused to recognize that the NRC has any distinction from the PDP”*. Examiner confirms that statement. As mentioned earlier, PDP is a logical entity and therefore is not physically distinguishable from the NRC, that appears to be a physical controller.

At point 8, appellants argue that *“the Office action is ignoring the recited subject matter”*. See page 13 of the Brief. Examiner disagrees. Examiner reviewed the Final Office action and confirms that no claimed subject matter has been ignored in the rejection of the appealed claims.

Regarding the rejection of claims 2, 11-13, and 17-20 under 35 USC 103(a), appellants argue:

at point 9, that virtual GGSN of Williams are not equivalent to the recited virtual PEP. See page 14 of the Brief. Examiner disagrees. Williams explicitly states that in the COPS-PR architecture, the GGSN is the PEP node. See col. 3 lines 47-48.

At point 10, appellants argue that Williams does not disclose a virtual PEP that identifies policy-enabled resources and then allocates requested policy enabled resources to a particular service. In response to this argument, it is noted that the argued functionality of PEP is not being relied on in Williams, but instead was relied on in Marchand. Appellants are advised to carefully review reasons for rejection. Williams was relied on to teach only that the first PEP is a virtual PEP that is created upon

requesting the particular service. See page 13 of the Final Office action. Identification of policy-enabled resources and allocation of requested policy enabled resources to a particular service is performed irrespective of whether the PEP is virtual or not.

As to any arguments not specifically addressed, they are the same as those discussed above and are not persuasive for analogous reasons.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections of claims 1, 6, and 9 under 35 USC 102(e) and claims 2, 8, 11-13, 17-20 under 35 USC 103(a) should be sustained.

Respectfully submitted,

Oleg Survillo, Examiner, AU 2442

/O.S./

June 9, 2010

/Philip C Lee/

Acting Supervisory Patent Examiner, Art Unit 2442

Conferees:

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